

## ИННОВАЦИОННЫЙ ПОТЕНЦИАЛ РАЗВИТИЯ ЭКОНОМИКИ INNOVATIVE POTENTIAL FOR ECONOMIC DEVELOPMENT

### Научная статья

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### Инновационное развитие системы высшего образования Республики Узбекистан в условиях цифровизации экономики

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**Аннотация.** Авторами проведено исследование проблем инновационного развития высшего образования Республики Узбекистан в условиях цифровизации современной экономики. Важнейшей целью исследования является изучение направлений и методов совершенствования системы высшего образования республики как важного фактора интенсификации производства и, прежде всего, ключевого условия усиления интенсивного характера экономики, каким в современных условиях является процесс цифровизации. Кроме этого, выделяют и другие цели исследования, в частности, в работе рассмотрены и выделены мероприятия, реализуемые руководством страны и направленные на развитие цифровой экономики, определяющие также пути инновационного развития системы высшего образования государства. В работе используются методы системного анализа, статистические методы, а также различные методы ранжирования.

В процессе исследования предлагается подход выделения цифровизации в узком и широком смыслах, рассматриваются направления электронной коммерции, анализируются тенденции развития процесса цифровизации узбекской экономики. Изучен передовой опыт развития различных аспектов цифровизации общества в странах с развитой рыночной экономикой и на постсоветском пространстве сквозь призму возможностей его использования в узбекском обществе. Определены основные направления решения проблем, возникающих на современном рынке труда в связи с изменениями в системе высшего образования страны в условиях необходимости его цифровизации.

Предлагается разработать стандарты обучения специалистов и создать специализированные учебные центры в сфере электронной коммерции. Кроме этого, рассматриваются также формы, методы и предложения по координации подготовки специалистов в данной сфере, условия обеспечения связи обучения с производством через организационно-хозяйственные структуры, вовлеченные в процесс электронной коммерции. Предложено также увеличить расходы государства на создание и развитие различных элементов инфраструктуры цифровой экономики.

**Ключевые слова:** инновационное развитие, цифровизация общества, экономика, высшее образование, Республика Узбекистан

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## Original Article

### Innovative development of the higher education system of the Republic of Uzbekistan in the conditions of digitalization of the economy

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**Abstract.** *The authors conducted a study of the problems of innovative development of higher education in the Republic of Uzbekistan in the conditions of digitalization of the modern economy. The most important purpose of the study is to study the directions and methods of improving the higher education system of the republic as an important factor in the intensification of production and, above all, a key condition for strengthening the intensive nature of the economy, which in modern conditions is the process of digitalization. In addition, other research objectives are also highlighted, in particular, the work examines and highlights the activities implemented by the country's leadership and aimed at the development of the digital economy, which also determine the ways of innovative development of the state's higher education system. The work uses methods of system analysis, statistical methods, as well as various ranking methods.*

*In the course of the research, an approach to digitalization in a narrow and broad sense is proposed, the directions of e-commerce are considered, trends in the development of the digitalization process of the Uzbek economy are analyzed. The best practices of the development of various aspects of the digitalization of society in countries with developed market economies and in the post-Soviet space are studied through the prism of the possibilities of its use in Uzbek society. The main directions of solving the problems arising in the modern labor market in connection with changes in the country's higher education system in the context of the need for its digitalization are determined.*

*It is proposed to develop standards for training specialists and create specialized training centers in the field of e-commerce. In addition, the forms, methods and proposals for coordinating the training of specialists in this field, the conditions for ensuring the connection of training with production through organizational and economic structures involved in the e-commerce process are also considered. It is also proposed to increase government spending on the creation and development of various elements of the digital economy infrastructure.*

**Keywords:** *innovative development, digitalization of society, economy, higher education, Republic of Uzbekistan*

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## Introduction

At present, the Republic of Uzbekistan is trying to implement the most effective mechanisms for the functioning of the higher education system in the context of the digitalisation of the economy, while taking into account the need for effective implementation of the country's socio-economic policy. In recent years, the main problem of education in Uzbekistan has been to improve its quality and increase its role in the process of modernising society. Thus, the growth of the quality of education in the country should be a determining condition for the effective development of society. As can be seen, the study of innovative development of higher education appears to be very relevant.

Over the years of independence, Uzbekistan's higher education system has undergone major changes connected with improving the quality of education and its adaptability and flexibility to the innovative conditions of economic development. This is due to the fact that there has been:

- The legal and regulatory framework for higher education has been established;
- Multi-level structure of higher education (bachelor — master — post-graduate — doctorate) was introduced;
- Correspondence and evening classes have been introduced;
- Conditions have been created for the opening and operation of foreign and non-governmental higher education institutions, etc.

However, the Decree of the President of the Republic of Uzbekistan S. Mirziyoyev UP 5847 of 08.10.2019 [1] states that there are still a number of pressing problems in the field of higher education with regard to the process of training highly qualified personnel that require immediate solutions. In addition, it is clear to everyone that the growing needs of society have turned modernisation and innovative development into the main means of survival and overcoming negative factors and trends in market conditions.

The “Concept of Development of Higher Education System of the Republic of Uzbekistan until 2030” [1] identifies some directions for the introduction of progressive models and standards of education, such as phased transition to higher education system aimed at building skills and approaches to the effective implementation of economic processes, including the phased implementation of the concept of “University 3.0”. It is obvious that the improvement of the education sector is the most important condition for the intensive development of the socio-economic system and for increasing its efficiency.

### **Theory / research methodology**

In the post-Soviet space, cooperation between IT companies in such areas as e-commerce, e-government, media content, digital banking technologies, technopark management, exchange of experience, development of technological infrastructure and innovation centres has recently intensified. As a result, the role of private capital and business as the basis for stimulating the use of digital economy results has increased significantly. Thus, the most important distinctive feature of the modern era, which largely characterises the specifics of society’s development in recent decades, is the use of technical, organisational and managerial capabilities of information databases, improving the system of analysis and accounting of economic processes, and accumulating large volumes of used and transmitted information.

In other words, the current stage of socio-economic development in the world is associated with the process of digitalization, with digitalization in the narrow and broad sense. In the first case, digitalization is understood, as G.S. Sologubova notes [2], as the transformation of information into digital form, which contributes to the reduction of reproduction costs, changes and dynamics of the structure of needs, opportunities, as well as goals, development of society, etc. All this leads to important positive consequences and contributes to the fact that the term “digitalization” is also used in the second case, i.e. in a broad sense. The second use of this category contributes to the understanding of digitalization as a global trend, a trend of development of society and economy, improves the level and quality of life of the population, increases socio-economic and environmental efficiency.

However, digitalization in the broad sense, according to G.V. Khalin and V.G. Chernova [3], should be seen as a positive trend of global development only when the transformation of digital information corresponds to a number of provisions. The most important are: digital transformation of information must be accompanied by effective use of its results; the results of information transformation are available to most users of the transformed information (i.e. not only to a narrow circle of specialists); digitalization must cover all the most important elements of the social reproduction system; and, finally, it is desirable that a significant part of digital information users have skills in working with it.

Many experts point out that digitalisation, including information platforms, has enormous potential. In particular, V. Lipov points out that the mobility potential of information platforms is comparable to that of financial corporations [4]. This is largely due to the specificity of digital innovation, which reflects the nature, process and outcome of almost any type of innovation, but beyond that, digital innovation leads to both short-term and long-term economic, social, environmental and cultural consequences and positive effects from its use. Of course, it is highly relevant to study the various problems of effective use of investments in the education system in the context of digitalization of society, including identifying the characteristics and specifics of the application of this kind of investment, their rational use, the growth of efficiency returns from the investment of this type of educational investments.

In the process of researching the issues of assessing the efficiency of investments in education, including higher education, in the context of digitalization of the economy, various methods were used, such as the method of system analysis, as well as various methods of ranking.

### **Study results and discussion**

The importance of ongoing processes of digitalization as one of the most important directions of intensification of social reproduction has allowed to raise the question of formation and development of a new type of economy, where the dominant importance is acquired by relations concerning the improvement of education. In accordance with the adopted strategy “Digital Uzbekistan — 2030”, it is necessary to maintain macroeconomic

stability and ensure a leap in economic development of the republic and achieve advanced positions in the ranking of competitiveness of world economies [5]. However, under these conditions, it is necessary to accelerate the scientific and technological development of the country, in particular, it is necessary to implement the introduction of digital technologies in all areas of activity, as well as investment in human capital and, especially, in education, from early childhood to adulthood, which contributes to a significant return on the economy and society.

The Statement of the President of Uzbekistan Sh.Mirziyoyev to Oliy Majlis from 30.12.2020 marks, that really without modern knowledge it is impossible to develop any region, any branch. This is evidenced by the fact that in developed countries more than 50% of gross domestic product is created by the “knowledge economy”, i.e. innovation and highly qualified personnel [6]. In another of his speeches, the President notes that in Uzbekistan, “in competition, those firms, countries and regions of the world that create and master new knowledge faster and more effectively than others, better adapt the products and services offered to the differentiated and dynamically evolving needs of people win. Vocational education will be reformed based on new approaches in accordance with labour market requirements and international standards” [7, p.1].

The core of the digital economy is the sector for the production of digital goods and the provision of digital services as the basis for digital education. It is estimated that the digital economy will allow for an increase in Uzbekistan’s gross domestic product of at least 30% and a drastic reduction in corruption, while savings of 25-30% can be achieved by monitoring and managing electricity grids using information and communication technologies. Given the importance of the process of digitalisation of the economy, it makes sense to take a closer look at the essence, methods and forms of its current implementation. To ensure the sustainable development of society, its digitalization at different hierarchical levels of the management system is the most important condition, along with such factors and conditions as ensuring security, satisfying material needs, forming effective social relations, reducing poverty, reducing income differentiation and other factors and conditions.

Obviously, this can only be done over a sufficiently long period of time. In order to achieve the goal of sustainable societal development it is necessary to implement strategies and policies that balance the different ingredients of society such as economic growth, social development and ecological balance. At the same time, it is clear that a decisive role in the process of achieving sustainable societal development through the formation of a long-term balance between societal development and the natural environment is played by modern technology, with a particular emphasis recently placed on the material and technical basis of digitalisation — ICT (information and communication technology), which emerged in relation to this kind of technology in the late 1990s and early years of this century.

However, as a phenomenon of modernity, the process of digitalisation dates back to the late forties of the twentieth century, i.e. with the emergence of the first computers and, accordingly, the essence of this process is the digital representation of data in its storage, transmission and processing [8]. Since that time, the potential and importance of ICT for the development of the digital economy has been fully revealed. At present, the sustainability of the functioning of society in the context of digitalization depends on the effective and interconnected operation of all elements of the management hierarchy of the entire society. As a result, the current state of affairs in the digital economy is characterized not only by the fact that ICTs are spreading in many spheres of society, but also by the fact that there is a change in the system of social trust, development of social contacts, strengthening of individualization tendencies, which significantly affects the dynamics of reproduction structures and elements (production, distribution, exchange, consumption, interpersonal property relations, etc.).

Thus, it is generally accepted in both global and domestic economic practice that new technical and organisational solutions have a positive impact on economic efficiency and the development of social relations, as well as on the environment. This is due to the fact that the sustainable functioning of social relations cannot be achieved without global communications and knowledge exchange. In this connection, it is obvious that the essence, the basis of the digital economy lies in the fact that in recent times the production of goods, functioning of services, continuous learning and development of the sphere of innovation have become possible thanks to modern technologies of information support, transmission and processing in a globalising market environment.

The impact of the digital economy on the environment is particularly evident in the impact of the ICT sector, electronic applications and the impact of e-commerce. A specific feature of the digital economy as one of the blocks of the innovative post-industrial system is that it does not so much create but accompanies almost all production and service processes, as well as extending to the social sphere. This is because the profound changes in the technological and communications economy that have taken place in recent decades mark the transition to a post-industrial economy in which knowledge and networks often play a more important role than physical capital.

The emergence of new information processing tools — computers — in the middle of the last century has led to the interrelated phenomena of the information boom and the scientific and technological revolution in society. As a result, the use of such a non-standard object of labour in the economic processes (materials, organic raw materials, chemical raw materials, etc. are considered to be regular ones) as an intangible substance — information — has considerably increased in the system of social reproduction. This is also reflected in the intensive development of such relatively new economic activities as information and intellectual activities. Enterprises and organisations with predominantly intangible assets have also begun to emerge on a growing scale, and knowledge has since played an increasing role as a new productive force (whereas before the emergence and spread of knowledge was the prerogative of the institutional structures of the scientific and educational system).

As a result, the digital economy represents a new technological stage in the development of the national economy based on information computer technology and communications. Its development has also led to a significant change of priorities in the structure of modern society's goals, in particular, to increased attention to ecological issues, although, of course, this fact is also explained by other reasons (increase in the scale of various public wastes, environmental pollution, reduction of non-renewable resources, etc.). A promising way forward for the digitalisation process is the emergence of digital platforms through which all areas of society are managed, including enterprises, industries, elements of the financial system, public administration, services (especially education and health). As a result of all this, an information society has emerged in recent decades, in which information, knowledge and the computer industry, together with the Internet, form a new socio-economic system.

At present, the Republic of Uzbekistan employs about 29,000 people in the ICT sector, working at 1,400 enterprises, whose total contribution to GDP is 2.2%. Today in the labour market, IT specialists account for about 1% of the total employed population of the country, and by 2025 it is planned to increase this figure to 2.5-3%, which corresponds to the global average level. The number of internet users increased by 1.2 million in 2020 compared to 2018, the number of social network users in the country increased by 44% in the same period, and the number of mobile connections increased by 76%. The total volume of communication and informatization services (wireline and mobile services, Internet network, satellite communication services, etc.) of Uzbekistan in 2020 is 12101 billion soums, which is 8.9% more than in the previous year.

In general, the following list of effective measures implemented by states and aimed at developing the digital economy can be highlighted, which, in our opinion, should include the following:

- Building scientific and social networks;
- Development of productive and social infrastructure and its various elements;
- Characterizing all kinds of barriers in the system of digital economy facilities;
- Ensuring the security of the digital infrastructure;
- Assessment of the various risks associated with the digitalisation process;
- Training and retraining of specialists in the field of digitalisation;
- Development of education related to information security;
- Investment and innovation in the information sector of the economy [9].

In Uzbekistan, as in many other countries, the issues of doing business in the field of crypto assets and currencies are increasingly beginning to be considered, including the creation of infrastructure for the circulation of cryptocurrency assets (e.g. crypto exchanges for trading crypto assets), legal regulation and the necessary legal environment for the introduction of digital technologies. Obviously, all such issues are also related to the challenges of digitalisation of society.

As in many countries, the government of Uzbekistan has recently taken a wide range of measures to further develop the digitalisation process, including in education, the increasing introduction of electronic payment and electronic document management systems, and the improvement of the legal conditions for the implementation of e-commerce.

Educational activities promoting digitalisation and the introduction of appropriate technologies into the teaching system include:

- Widespread adoption of webinar, online, blended learning, flipped classroom technologies, as well as adoption of the E-MINBAR platform;
- Uploading to electronic storage media, use of cloud technologies;
- Development of distance learning programmes;
- Organization of a training system for the digital economy [10].

In this regard, the model of electronic information and educational environment of the university has shown its viability, which makes it possible to predict the development of integration processes in research and educa-

tional spheres. The significant positive properties of this model should include the improvement of the relationship between the teacher, on the one hand, and the student, on the other hand, synchronization of used management and technological solutions, as well as the possibility of their integration.

The digital economy functioning on information-technology platforms is developing with high intensity, which requires accelerated creation of new models of such platforms. Various universities in Uzbekistan should form knowledge bases for the future development of any branch of the republic and for many types of business processes in which significant development potential has been identified, and a register of digital product ideas on key economic problems should be developed [11].

In the Republic of Uzbekistan, the digitalization process is intensively developing in such universities as Tashkent State University of Economics, Tashkent State Transport University, Samarkand State Institute of Architecture and Construction, etc. Besides the professional training of IT human resources, higher education establishments in the country are actively involved in the creation of start-ups in ICTs: it involves creating technology parks, attracting venture capital and organizing business accelerators and incubators. For instance, about 300 IT companies in Uzbekistan currently use the services of the Mirzo Ulugbek Innovation Centre linked with some of the country's leading universities, and it is planned to increase the volume of products and services provided by these companies tenfold by 2025. At the same time, it should be added that the digitalization process in Uzbekistan's higher education system is still only in its early stages, but one can already point to the significant potential of this process.

An important area of innovation-intensive development is also the creation of a system of virtual universities. It should be added that Boston Consulting Group researchers have concluded that a large proportion of the working-age population in Russia does not have the necessary skills to work in modern information markets, and the proportion of people employed in high-skill, knowledge-based labor in Uzbekistan is even lower, with only 17% employed, which is 1.5 times less than in Japan or the United States, 1.7 times less than in Germany, 2.0 times lower than in Singapore and 2.6 times lower than in the UK [12]. This is despite the fact that calculations show that each unit of expenditure on education yields a return of 1.7 to 1.9 units of produced GDP, i.e. expenditure on education is highly cost-effective. This is why, in many countries, both developed and developing, one of the strategic directions of development is to determine the prospects of national education systems, including higher education.

To clarify the issue of investment, it should be noted that investment for any state is a prerequisite for financial stability, and there is a rather elaborate classification of different types of investment. As is known, there are short-term and long-term investments, private, public, foreign and joint investments, etc. Let us specify that investments are understood as money, securities, other property, including property rights, as well as other rights with a monetary value, invested in objects of entrepreneurial and other types of activity for the purpose of obtaining profit or achieving another useful effect. It is also important that investment is an essential condition for the implementation of innovative projects, including innovations in the development of digital technologies.

Clearly, investment and innovation in the process of digitalization of society is one of the most important areas of intensification of production. It should be recalled that when talking about the processes of extensification and intensification, two fundamentally different ways of achieving the production objective are meant. In the first case, resources are increased; in the second case, resources are saved per unit of output.

In view of the above, it makes sense, in our view, to complement the previously given classification of different types of innovation and also to distinguish in this classification investment and innovation of the extensive and intensive type. They differ in the results: in the first case, their implementation contributes to the process of extensification, while in the second case, on the contrary, it contributes to the process of intensification.

It is also important to distinguish the share, specific weight of each of these groups in the overall structure of investment and innovation. We should also note that since there are various resource-saving directions of social production intensification (labor-saving, stock-, material-, energy-saving, etc.), as a result of which the corresponding resource (live labor, fixed assets, materials, energy) is saved, it is advisable to allocate several subgroups corresponding to all these resource-saving directions of production intensification to the group of investments and innovations of intensive type.

The study of the forms of digitalization of the economy should be interconnected with the allocated resource-saving directions of production intensification [13]. Energy- and water-saving directions of production intensification are especially important for the Republic of Uzbekistan. In this connection, it is these forms of intensification that should receive special attention and strive to develop such a package of measures for digitalization of the economy, which will best correspond to the specified resource-saving directions of intensification of the Uzbek economy.

In the post-Soviet space, some countries have adopted the following definitions of the digital economy in official documents [14]: the digital economy in these states is understood as a type of economic activity in which the defining condition of the reproduction system is data in digital form, and its processing in large volumes contributes, as a rule, to a significant increase in production efficiency. It is also important to note that the characteristics of digitally represented information include:

- Creating digital technologies that are more efficient than analogue technologies;
- Possibility of information transmission based on a variety of physical principles and using different material carriers;
- Distribution and copying of information without significant loss of accuracy, and a number of others.

If we compare the definitions of the digital economy available in the specialist literature, we can point out some of its features [15], the most important of which are:

- concluding the use of mathematical methods and models of information processing (e.g. production functions, demand and supply functions), based on taking into account the digital form of its representation;
- Conforming to the concept of accelerated socio-economic development;
- Comprehensive to the system of social reproduction as a whole;
- Reflecting the specifics of the new technological stage, and some others.

Thus, a radical turn is outlined in the development of the digital economy [16]. In various significant sectors of the economy, such as energy, construction, education, etc. — complete digitalisation. Various ministries and departments need to take measures for timely and quality establishment of information systems.

The Ministry of Development of Information Technologies and Communications of the Republic of Uzbekistan together with other interested departments has developed a draft programme “Digital Uzbekistan — 2030” [5]. This programme includes:

- Increasing the capacity of the domestic IT market [17];
- Ensuring openness and transparency of activities of state bodies and organizations [18];
- Forming a unified database of information systems and software products of the Republic of Uzbekistan;
- Organization of laboratories in universities for software product development, including the involvement of internationally recognized advanced IT companies [19], as well as a number of other provisions.

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The special properties and specifics of digital information have led to the recent emergence of a new scientific field of “digital economics”, which includes mathematical methods and models based on the digital format of information representation [20]. Thus, it is appropriate to understand the digital economy as an economy whose main trend of effective development is the process of digitalization.

Scientific publications concerning the study of trends and patterns of economic development at different levels of the management hierarchy (at the level of the global economy, national, sectoral, regional, etc.) make the process of digitalization an object of special attention [21]. This is indicated by the large number of studies by both foreign and domestic authors analysing various aspects of the digital economy, studying its effects and disseminating the results.

At the same time, studies by Uzbek specialists on these issues are mainly aimed at studying the experience of other states and adapting it to the realities of the national market. In the foreseeable future, in our opinion, the situation will change and the educational structure of the Republic of Uzbekistan will also actively master the results of new trends in information and communication technologies, such as “Big Data”, “cloud computing”, etc. [22]. The digitalization of the Uzbek economy will increase the competitiveness of our country in world markets and should increase the efficiency of social production.

## Conclusion

President Sh. M. Mirziyoyev, in his Address to the Parliament of Uzbekistan, stressed that we need to train 1 million qualified software specialists in a short period of time [6]. It is necessary to successfully transition to a modern digital economy and properly equip such areas as e-commerce with the appropriate specialists.

In general, it can be noted that the higher education system in the Republic of Uzbekistan is at the very beginning of its digitalization process, but it is already clear that this system has a high potential and is capable of intensive development to achieve world average indicators in this area in the foreseeable future, with the process of digitalization of society itself being the most important direction of intensifying social reproduction in modern conditions. Besides the development of curricula for training specialists in ICT for the national economy of the country, it is advisable for higher education institutions in Uzbekistan to widely introduce positive foreign experience in business activities in the field of crypto assets and currencies, including research on the creation of necessary infrastructure for the circulation of cryptocurrency assets (creation of crypto-exchanges for trading cryptoassets), including blockchain technology, mining for further development of investment and business activities. In this regard, it is also important for universities to conduct research and, on this basis, to develop and create training programmes to ensure legal regulation and the necessary legal environment for the introduction of digital technologies, taking into account the best practices of foreign countries, including the Russian Federation (it should be added that some Russian and Belarusian universities successfully transfer positive teaching experience to a number of universities in Uzbekistan, for example, the Plekhanov Russian University of Economics. The Russian Federation has a branch in Tashkent, where Russian experts often come to give training sessions on various topical issues, including digitalization).

It is also of great importance to ensure cooperation between state structures and private business in the introduction of technologies for the further development of the digital economy, i.e. the creation of a public-private partnership system in this area. Uzbekistan's universities can and should play a role here, including in improving the e-government system in various areas of activity (for example, in health care, where the creation of electronic medical records, the transition of medical institutions to electronic format, as well as online counselling of patients or the creation of an information system for the unified electronic voter list and its implementation throughout the country are envisaged).

Among the highest priorities in the field of e-commerce development, it is advisable, in our opinion, to single out the following:

- To develop training standards for specialists and proposals for coordinating their training in e-commerce in various sectors of the economy;
- Create specialized training centres in the field of e-commerce;
- To provide links between training and production through the structures involved in the e-commerce process;
- Improve the system of planning and forecasting of the required number of specialists and assessment of their training quality, taking into account global, regional and national trends in the aggregate structure of demand and supply. The development of artificial intelligence may lead to competition in the creative professions. Under these conditions, work may become a privilege rather than a necessity, i.e. not a source of income, but a condition of getting moral satisfaction from one's activity, while a person may get necessary material benefits to satisfy his/her life needs as well.

In accordance with the programme "Digital Uzbekistan — 2030", the activities of the country's higher education institutions should not just be embedded in the digital economy, the educational process should form relevant competencies, which will allow graduates of Uzbek universities to be prepared to work in the modern digitalization environment.

Due to the rapid dynamics and changing development priorities of society in technologically advanced segments, the lifespan of the profession continues to shrink rapidly. This results in fewer and fewer highly specialised professionals being needed for the new economy. As a result, there is already an imbalance on the labour market. As a result, we have recently encountered a situation on the labour market where there is both unemployment and a shortage of highly qualified personnel. Therefore, it is quite relevant to define specific competencies in the context of the development and implementation of new educational and professional standards that take into account the specifics of the development of the digital economy in modern conditions.

Given that some institutions of higher education in Uzbekistan have experience in implementing educational and research projects according to international standards, it would be advisable to train students within the framework of the National Technological Initiative, which would improve the process of training personnel for

the digital economy. It is also important that the republic pays special attention to the development of modern multi-competencies when training economic personnel, including in the field of economics and management of the national economy. The accelerated development of enterprises in the technical and economic sphere requires solving personnel issues with the involvement of specialists possessing not only traditional economic knowledge, but also modern competences in the field of information technologies and computer systems.

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